AMENDED CLAIMS

What is claimed is:

1. (currently amended) A lenticular bar code image, comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a lenticular bar code angle.

2. (original) The lenticular bar code image of Claim 1 wherein the lenticular bar code angle is in a range from 0 to 360 degrees.

3. (original) The lenticular bar code image of Claim 1 wherein the lenticular bar code angle is in a range from 0 to 90 degrees.

4. (previously presented) The lenticular bar code image of Claim 1 wherein the bars are skewed with respect to the lenticules.

5. (previously presented) The lenticular bar code image of Claim 1 wherein the bars are perpendicular to the lenticules.

6. (previously presented) The lenticular bar code image of Claim 1 wherein the bars are not aligned with the lenticules.

7. (previously presented) The lenticular bar code image of Claim 1 wherein the bar code symbol is readable through the lenticules by a bar code reader.

8. (original) The lenticular bar code image of Claim 7 wherein the bar code reader is a scanner.

9. (original) The lenticular bar code image of Claim 7 wherein the bar code reader is one of: a contact reader, a moving beam scanner, a fixed beam scanner, and a hand-held scanner.

10. (previously presented) The lenticular bar code image of Claim 7 wherein the bar code symbol has an American National Standards Institute Standard X3.182-1990 readability grade of at least 2.0.

11. (original) The lenticular bar code image of Claim 1 wherein the bar code symbol is a Universal Product Code (UPC) symbology.

12. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticules have a width of less than about 0.006667 inches.

13. (previously presented) The lenticular bar code image of Claim 12 wherein the lenticules have a focal length and a gauge thickness and wherein the focal length is substantially equal to the gauge thickness.

14. (original) The lenticular bar code image of Claim 13 wherein the gauge thickness is less than about 10 mils.

15. (original) The lenticular bar code image of Claim 1 wherein the lenticular lens includes at least 150 lenticules per inch (LPI).

16. (original) The lenticular bar code image of Claim 1 wherein the bar code symbol is one of a Code 39 symbology, an Interleaved 2 of 5 symbology, a Codabar symbology, a Code 128 symbology, a Code 93 symbology, and a Postnet symbology.

17. (previously presented) The lenticular bar code image of Claim 1 wherein at least one of the plurality of lenticules overlays more than one of the bars.

18. (previously presented) The lenticular bar code image of Claim 1 wherein the image is printed directly to the flat back surface.

19. (original) The lenticular bar code image of Claim 1 wherein the image is printed onto the lenticular lens by one of: sheet-fed printing, web-offset printing, flexographic printing, gravure printing, digital printing, and electronic deposition.

20. (original) The lenticular bar code image of Claim 1 wherein the image is not printed onto the lenticular lens by a photographic printing process.

21. (original) The lenticular bar code image of Claim 1 wherein the image is printed onto the lenticular lens by one of: sheet-fed printing, web-offset printing, flexographic printing, gravure printing, digital printing, inkjet and electronic deposition.

22. (original) The lenticular bar code image of Claim 1 further comprising a substrate such that the image is disposed between the lenticular lens and the substrate.

23. (previously presented) The lenticular bar code image of Claim 22 wherein the image is printed to the substrate.

24. (original) The lenticular bar code image of Claim 23 wherein the image is printed onto the substrate by one of: sheet-fed, web-offset, flexographic, gravure, digital printing, inkjet and electronic deposition.

25. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular lens comprises an ultraviolet curable resin and a plastic material selected from the group consisting of: polyester vinyl, polycarbonate, polyvinyl chloride, polyethylene terephthalate, and amorphous polyethylene terephthalate.

26. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular lens comprises an ultraviolet curable resin.

27. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular lens comprises thermoplastic material.

28. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular lens comprises plastic material.

29. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular lens comprises electron beam, curable resin material.

30. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular bar code image is applied to at least one of: a package, a cup, a container, a product, and a label.

31. (currently amended) A lenticular bar code image, comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a Universal Product Code bar code symbol having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a lenticular bar code angle such that the bars are substantially perpendicular to the lenticules.

32. (currently amended) A lenticular bar code image, comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a Universal Product Code bar code symbol having bars lithographically printed directly to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a lenticular bar code angle such that the bars are substantially perpendicular to the lenticules; and

wherein the bar code symbol is readable through the lenticules by a bar code reader.

33. (currently amended) A lenticular bar code image, comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a Universal Product Code bar code symbol having bars lithographically printed directly to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a lenticular bar code angle such that the bars are substantially perpendicular to the lenticules;

wherein the bar code symbol is readable through the lenticules by a bar code reader; and

wherein the bar code symbol remains substantially visible despite any movement of the lenticular bar code image.

34. (currently amended) A label, comprising:

a label substrate; and

a lenticular bar code image attached to the label substrate, the lenticular bar code image comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a bar code rotation angle.

35. (currently amended) A container, comprising:

a container substrate; and

a lenticular bar code image attached to the container substrate, the lenticular bar code image comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a bar code rotation angle.

36. (currently amended) A product, comprising:

a product substrate; and

a lenticular bar code image attached to the product substrate, the lenticular bar code image comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a bar code rotation angle.

37. (currently amended) A package, comprising:

a package substrate; and

a lenticular bar code image attached to the package substrate, the lenticular bar code image comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a bar code rotation angle.

38. (currently amended) A method of making a lenticular bar code image, the method comprising:

providing a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface;

providing a lenticular bar code image including both a bar code symbol having bars and an interlaced image with interlaced image segments; and

joining the lenticular bar code image to the flat back surface of the lenticular lens, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a bar code offset angle.

39. (previously presented) The method of Claim 38 wherein the lenticules are not parallel to the bars.

40. (previously presented) The method of Claim 38 wherein the lenticules are normal to the bars.

41. (currently amended) A method of reading a lenticular bar code image, the method comprising:

providing a lenticular bar code image, the lenticular bar code image comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a back surface opposite the front surface; and

an image including both a bar code symbol having bars joined to the back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a lenticular bar code angle; and

reading the lenticular bar code image through the lenticules with a bar code reader.

42. (currently amended) A lenticular image, comprising:

a lenticular lens having a front surface including a plurality of lenticules oriented along an axial direction and a flat back surface opposite the front surface; and

an image including both a readable product identifier having bars joined to the flat back surface of the lenticular lens and an interlaced image with interlaced image segments, the lenticular lens and image in overlay relationship with one another such that the interlaced image is substantially parallel to the plurality of lenticules oriented in the axial direction and such that a line parallel to the axial direction and at least one of the bars diverge from a common point to define a readable product identifier angle.

43. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular bar code image minimizes distortion of the bar code symbol.

44. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular bar code image minimizes distortion of the bar code symbol as the bar code symbol appears through the lenticules.

45. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular bar code image facilitates non-distorted viewing of the bar code symbol.

46. (previously presented) The lenticular bar code image of Claim 1 wherein the lenticular bar code image facilitates non-distorted viewing of the bar code symbol as the bar code symbol appears through the lenticules.